

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 March 2005 (31.03.2005)

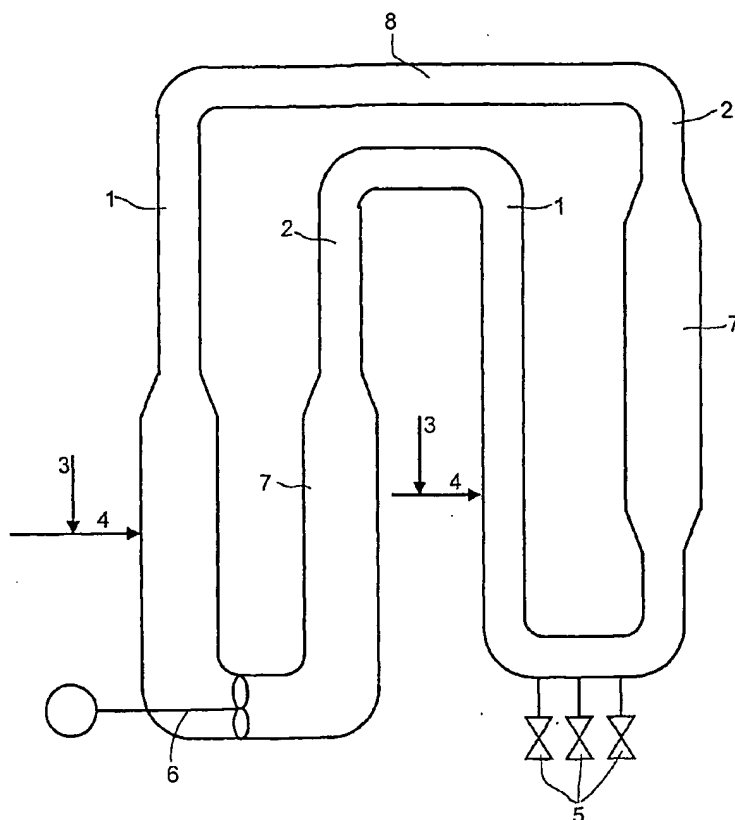
PCT

(10) International Publication Number
WO 2005/028097 A1

- (51) International Patent Classification⁷: **B01J 19/18**, (72) Inventors; and
C08F 2/01 (75) Inventors/Applicants (for US only): **MIHAN, Shahram**
[IR/DE]; Am Eichwald 18, D-65812 Bad Soden (DE).
(21) International Application Number: **GSELLA, Wolfgang** [DE/DE]; Bergstr. 34, D-50999
Köln (DE). **KÖLLE, Peter** [DE/DE]; Kirschblütenweg 7,
D-50996 Köln-Rodenkirchen (DE). **WULFF-DÖRING,**
(22) International Filing Date: **Joachim** [DE/DE]; Hanns-Fey-Str. 4, D-67227 Franken-
thal (DE).
16 September 2004 (16.09.2004)
(25) Filing Language: English (74) Agent: **BASELL POLYOLEFINE GMBH**; Intellectual
Property - F 206, Carl-Bosch-Str. 38, D-67056 Lud-
wigshafen (DE).
(26) Publication Language: English
(30) Priority Data: (81) Designated States (unless otherwise indicated, for every
103 44 500.5 24 September 2003 (24.09.2003) DE kind of national protection available): AE, AG, AL, AM,
60/529,037 12 December 2003 (12.12.2003) US AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
(71) Applicant (for all designated States except US): **BASELL**
POLYOLEFINE GMBH [DE/DE]; Brühler Strasse 60,
D-50389 Wesseling (DE).

[Continued on next page]

(54) Title: LOOP REACTOR WITH VARYING DIAMETER FOR OLEFIN POLYMERIZATION



(57) Abstract: Process for polymer-
izing at least one olefinic monomer in
a loop reactor at from 20 to 150°C, but
below the melting point of the polymer
to be formed, and a pressure of from 5
to 100 bar, where the polymer formed
is present in a suspension in a liquid or
supercritical suspension medium and
this suspension is circulated by means
of an axial pump, wherein the loop
reactor comprises a cyclic reactor tube
whose diameter varies by at least 10%,
based on the predominant reactor tube
diameter, and in which there is
at least one widening and narrowing
in a region other than that of the axial
pump.



PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.